REVIEW

Atlas of United States Trees. Volume 6. *Supplement.* By ELBERT L. LITTLE, JR. USDA Misc. Publ. 1410: i–v, 1–31, 3 base maps, 36 maps. US Government Printing Office, Washington, DC. 1981. No price listed.

The final slender volume of Little's *Atlas* closes a 10-year project of publishing maps that show the full distributions of all native continental U.S. trees. Together with Little's *Checklist,* the *Atlas* volumes have brought to a close the major dendrological activities of the U.S. Forest Service, and with Little's retirement, the title of Chief Dendrologist has disappeared from the Forest Service's rolls. The crowning achievement of the last Chief Dendrologist's career was built on a foundation begun 70 years ago by G. B. Sudworth, the Forest Service's first dendrologist. Of the almost 700 species mapped in the *Atlas,* the *Supplement* includes maps of 36 species, but only one of these, *Juniperus erythrocarpa* Cory, shares the 1:10,000,000 base map uniform throughout the majority of the series. The other 35 species are the hawthorns accepted as distinct in the *Checklist,* although many other authors would not be so conservative. Their distribution is indicated only by dots in states and provinces. This treatment is disappointing since willow and juneberry species, which also show considerable taxonomic difficulties, are mapped in confident detail in other volumes of the series. However, the hawthorn maps are based primarily on literature citations, not on specimens, just as the accepted hawthorns and synonymy of the *Checklist* derive primarily from regional treatments rather than from overall personal study. Although lacking detail and not particularly informative, the maps generally accord with the more detailed ones presented by Tom Elias in his recent tree manual. Finally, Volume 6 presents indices to all species maps (duplicating material in the *Checklist*) and a list of all base maps for the whole series.

Nothing in Volume 6 makes me change the generally positive view of the series that I presented in a review of the preceding volumes in *Systematic Botany* (3:327–328), although the faults remain. For example, the errors in scale and presentation of the overlay maps included in Volume 1 are addressed but not corrected in the introduction to Volume 6. Furthermore, the introduction to this volume contains one paragraph that represents the biggest disappointment of the whole series: there is no plan for any new editions. The Forest Service apparently believes, and here I sense that Little shares my disappointment, that the *Atlas* and *Checklist* are complete, the final word in American dendrology. Little has accomplished a labor of love, but it is far from final. There are innumerable small errors of detail in the maps (some surprisingly large, such as the broad southern Ontario range of *Quercus prinus* L. adopted for Volume 1 from Hosie's *Native trees of Canada,* when the species apparently does not grow naturally in Canada), and Little can only suggest that such corrections be sent to state herbaria. In addition, the actual presentation of the maps could be greatly improved. The lack of commitment to further work in this field by the Forest Service is depressing because it is the only organization with the national base and resources needed to accomplish the task of revision. Rather than ending the program, the Forest Service should extend it to mapping the ranges of Hawaiian trees and of naturalized tree species, to documenting changes in distribution since the contact time chosen as a baseline, to incorporating the abundance of tree species throughout their ranges, and to adding at least some shrubby species, perhaps in interdepartmental cooperation with the Soil Conservation Service, the Bureau of Land Management, the National Park Service, and other agencies concerned with management of federal and state lands. In the *Atlas,* Little and his collaborators have given us the most extensive suite of detailed, large-scale distribution maps for any group of organisms in North America. They are useful, not only to biogeographers and other biologists, but also to land managers and many other segments of American society. Although trees are the most conspicuous organisms, and thus the easiest to map, these maps pose a challenge to the biological community to provide comparable detail for other organisms. Since the federal government has abandoned responsibility in this area, who will shoulder the burden and follow the trail that Little has set for us?—JAMES E. ECKENWALDER, Department of Botany, University of Toronto, Toronto, Ontario, Canada M5S 1A1.